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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,282	11/25/2003	Tadashi Ishii	0234-0472P	4753

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EXAMINER	
MAYO III, WILLIAM H	

ART UNIT	PAPER NUMBER
2831	

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/720,282	ISHII ET AL.	
	Examiner	Art Unit	
	William H. Mayo III	2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 November 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/25/03 &3/24/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copies have been filed in National PCT Application No. PCT/JP02?05379, filed on May 31, 2002.

Information Disclosure Statement

2. The information disclosure statements filed November 25, 2003 and March 10, 2004 have been submitted for consideration by the Office. They have been placed in the application file and the information referred to therein has been considered.

Drawings

3. The drawings are objected to because Figures 1-2 lack the proper cross-hatching which indicates the type of materials, which may be in an invention. Specifically, the cross hatching to indicate the conductor and insulative materials is improper. The applicant should refer to MPEP Section 608.02 for the proper cross-hatching of materials. Correction is required.

4. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as

per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

6. The abstract of the disclosure is objected to because the last line of the abstract states "A transformer in which the insulated wire is used", which is improper language for the abstract. The applicant should delete the last line. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-3, 5-12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higashiura et al (JP Pat Num 10-125140, herein referred to as Higashiura) in view of Hosoi (JP Pat Num 04-345703). Higashiura discloses a multilayer insulated wire (Fig 1) having high heat resistance and high flexibility that may be for usage with a transformer (abstract). Specifically, with respect to claim 1, Higashiura discloses a multilayer insulated wire (Fig 1) having two or more extruded insulation layers (6b-6d) provided on a conductor (6a) to coat the conductor (6a, abstract), comprising at least one insulating layer (6b-6c) having polyethersulfone resin (abstract), wherein at least one of the insulating layers (6d) other than the at least one insulating layer (6b-6c), is provided as an outer layer (Fig 1) to the at least one insulating layer (6b-6c). With respect to claim 5, Higashiura discloses that the multilayer insulating wire (Fig 1) is for usage with a transformer (abstract). With respect to claim 6,

Higashiura discloses a multilayer insulated wire (Fig 1) having two or more solderable extrusion insulating layers (6b-6d) provided on a conductor (6a) to coat the conductor (6a, abstract), comprising at least one insulating layer (6b-6c) having 100 parts of resin (A) that may be polyetherimide resin or polyethersulfone resin (abstract), and 10 parts by weight of resin (B) selected from the group consisting of polycarbonate, polyarylate, polyester, or polyamide resin (abstract), wherein at least one of the insulating layers (6d) other than the at least one insulating layer (6b-6c), is provided as an outer layer (Fig 1) to the at least one insulating layer (6b-6c). With respect to claim 7, Higashirura discloses that the resin (A) may be polyethersulfone resin (abstract). With respect to claim 8, Higashirura discloses that the resin (B) may be polycarbonate resin (abstract). With respect to claim 9, Higashirura discloses that the resin (A) may be polyethersulfone resin (abstract) and the resin (B) may be polycarbonate resin (abstract). With respect to claim 10, Higashirura discloses resin mixture is made by blending 100 parts of weight of resin (A) and 10-70 parts by weight of resin (B, abstract). With respect to claim $14_{6\text{-}10}$, Higashiura discloses that the multilayer insulating wire (Fig 1) is for usage with a transformer (abstract).

Higashirura doesn't necessarily disclose the outer layer being polyphenylenesulfide resin (claims 1 & 6), nor the polyphenylenesulfide resin forming at least one insulating layer that has a loss modulus that is two or more times the storage modulus at 300°C and 1 rad/s in a nitrogen atmosphere (claims 2 & $11_{6\text{-}10}$), nor the outermost layer being polyphenylenesulfide (claims 3 & $12_{6\text{-}10}$).

Hosoi teaches multilayer coated wire (Fig 1) capable of being utilized in a transformer having excellent heat resistance and anti-wear properties along with great flexibility (abstract). Specifically, with respect to claims 1 & 6, Hosoi teaches a multilayer coated wire comprising at least one or more insulating layers (2 & 3) coating a conductor (1), wherein the outermost layer comprises polyphenylenesulfide resin (abstract). With respect to claims 2 & $11_{6\text{-}10}$, Hosoi teaches that the outmost layer may be made of polyphenylenesulfide resin, which inherently exhibits a loss modulus that is two or more times the storage modulus at 300°C and 1 rad/s in a nitrogen atmosphere. With respect to claims 3 & $12_{6\text{-}10}$, Hosoi teaches a multilayer coated wire comprising at least one or more insulating layers (2 & 3) coating a conductor (1), wherein the outermost layer comprises polyphenylenesulfide resin (abstract).

With respect to claims 1-3 and $11\text{-}12_{6\text{-}10,}$ it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the insulated wire of Higashiura to comprise the outermost layer being polyphenylenesulfide resin as taught by Hosoi because Hosoi teaches that such a configuration provides a multilayer insulated wire having excellent heat resistance and anti-wear properties along with great flexibility (abstract) and since it has been held to be within general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

10. Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higashiura et al (JP Pat Num 10-125140) in view of Hosoi (JP Pat Num 04-345703, herein referred to as modified Higashiura), as applied to claims 1 and 6-10 above,

further in view of Nakano et al (Pat Num 5,166,238, herein referred to as Nakano). Modified Higashiura discloses a multilayer insulated wire (Fig 1) having high heat resistance and high flexibility that may be for usage with a transformer (abstract) as disclosed above. Specifically, modified Higashiura discloses that the resin (A) may be polyethersulfone resin (abstract) and the resin mixture is made by blending 100 parts of weight of resin (A).

However, modified Higashiura doesn't necessarily disclose the at least one insulating layer is composed of a mixture made by blending: 10 to 85 parts by weight of an inorganic filler (claim 4 & 13).

Nakano teaches a stylene based resin having excellent heat resistance, electrical insulating properties, solvent resistance, chemical resistance, mechanical strength, modulus of elasticity, and dimensional stability, that may be utilized in various applications, such as coating electrical materials (Col 1, lines 35-52). With respect to claims 4 & 13, Nakano teaches a resin coating that may comprise polyethersulfone having an inorganic filler (Col 9, lines 5-15) that may be 10 parts (Col 11, lines 8-16).

With respect claims 4 & 13, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the insulated wire of modified Higashiura to comprise the filler resin configuration as taught by Nakano because Nakano teaches that such a configuration provides a resin having excellent heat resistance, electrical insulating properties, solvent resistance, chemical resistance, mechanical strength, modulus of elasticity, and dimensional stability, that may be utilized in various applications, such as coating electrical materials (Col 1, lines 35-52).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Matsuura (JP Pat Num 04-245110), Hildreth (Pat Num 6,359,230), Higashiura et al (Pat Num 6,066,806), Shukushima (Pat Num 5,492,761), Livingston et al (Pat Num 5,426,264), Rose et al (Pat Num 4,320,224), Holub (Pat Num 4,908,418), Hardin et al (Pat Num 5,001,304), Irwin et al (Pat Num 5,710,475), and Inai et al (Pat Num 5,041,335), all of which disclose multilayer insulated wires.

Communication

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

William H. Mayo III
Primary Examiner
Art Unit 2831

WHM III
July 24, 2004